

SPECIAL PROVISIONS FOR RADIOACTIVE MATERIALS

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SPECIAL PROVISIONS FOR RADIOACTIVE MATERIALS**I. Definitions**

- A. Act - the Atomic Energy Act of 1954, as amended.
- B. Radioactive Material - See Appendix B.

II. Special Provisions (for work performed by other than shipyards)**A. Health and Safety**

All work under this order involving radioactive materials, including receipt, handling, storage and shipment, shall be performed pursuant to a Nuclear Regulatory Commission (NRC) license issued under Code of Federal Regulations, Title 10, or, if the work is to be performed in a state which has entered into an agreement with the NRC pursuant to Section 274 of the Act, as amended, pursuant to requirements of such state, and the Seller shall comply with all provisions of such license, including reporting requirements. As evidence that it has received the required license(s), the Seller shall submit to Bettis three copies of Form 73809, "Certifications of License" (Appendix A hereto) with his quotation. If a new license or an amendment is required, the Seller must submit his schedule for obtaining such new license or amendment, and must submit three copies of Form 73809 as soon as the new license or amendment is obtained. (It should be noted that a license may not be required of the Seller if all the work is performed on the Bettis Site.) Under no circumstances shall the Seller conduct any work prior to submittal of a Form 73809 for the work involved. The same instructions apply to any work to be performed by the Seller's subcontractors.

These licensing requirements do not in any way exempt the Seller or his subcontractors from compliance with applicable security requirements. In addition, the Seller and his subcontractors shall comply with all applicable state and local health and safety regulations.

B. Subcontracting

Notwithstanding the provisions of the Article entitled "Subcontracting" of Form 73495, the Seller shall not subcontract any of the work involving radioactive materials under this order without prior written approval from Bettis.

C. Indemnification (for work performed at the Seller's facilities and/or shipments from or to Bettis or NRF via the Seller's vehicles)

The Seller shall indemnify and save harmless the Government and Bettis from and against any and all claims, demands, actions, cause of action, suits, damages, expenses, (including attorney's fees) and liabilities whatsoever resulting from or arising in any manner on account of or by reason of any injury to or death of any person or any damage to or loss of property which may occur or be alleged to have

occurred as a result of or in connection with the performance of this order through negligent acts of the Seller or of the Seller's employees.

III. **Special Provisions**

(These provisions apply when the scope of the order involves decontamination of equipment.)

A. **Radiological Surveys**

The Seller shall make a radiological survey of components and/or assemblies after decontamination to determine the amount of loose surface and fixed alpha/beta/gamma contamination and the radiation levels. A record of the results of such a survey shall remain with the items decontaminated under this purchase order. Radioactive material is established by the document titled NAVAL REACTORS PROGRAM RADIOLOGICAL CRITERIA, Appendix B hereto.

B. **Decontamination Procedures**

Decontamination procedures and controls shall be according to the instructions and specifications as noted in the body of the order. Painting material as a means of "fixing" contamination is prohibited.

C. **Decontamination Report**

Following the decontamination operation, the Seller shall prepare and submit to Bettis two copies of an information report. This report shall include, as a minimum, the processes used, the levels of radiation and contamination before and after each process, applicable comments and a discussion of any difficulties encountered by the Seller in becoming familiar with radioactivity and in applying decontamination techniques. Additional report requirements shall be as required in the technical specifications.

IV. **Special Provisions** (for work performed by shipyards, both Navy and Commercial)

A. **Health and Safety**

The shipyard performing the work identified in this order is authorized per the current NAVSEA Instruction to handle radioactive equipment and materials associated with naval nuclear propulsion plants. All work involving radioactive materials under this order shall be performed in accordance with the provisions of the current NAVSEA Instruction.

V. Shipments

A. General

1. Applicable Regulations

All shipments shall be made in accordance with applicable Federal Regulations, including 49 CFR Parts 100 to 199, and all applicable state and local requirements.

2. For material which is not radioactive by the DOT regulations but which meets the definition of radioactive material in Appendix B, include the following statement on the packing list:

"This material is not regulated by DOT per 49 CFR 173.403(y) but is being handled as radioactive by the consignor and consignee in accordance with DOE Naval Reactors instructions."

3. Packaging Requirements

Shipping containers shall meet applicable NRC and DOT requirements and, **in all cases, the outside of the outer packaging shall be marked with:**

- a. The DOT Proper Shipping Name and the Identification Number (e.g., UN2910) as specified in 49 CFR 172.101
- b. The Bettis purchase order number
- c. Package identification serial number
- d. Other markings as may be required in the technical specifications

4. Shipments to Naval Reactors Program Facilities

- a. Any items meeting the criteria of Appendix B for identifying radioactive material shall be labeled, packaged and shipped as radioactive material.
- b. Surface contamination limits specified in Appendix B shall not be exceeded on the vehicle surfaces (to the extent under the Seller's control), the external and internal surfaces of the package, or on the external surfaces of the inner containers.

5. Shipping Documents

- a. Bills of lading, packing lists and other shipping papers shall be identified with the Bettis purchase order number, with one of each being forwarded to the buyer.

- b. A packing list, Bill of Lading and RMSR shall accompany each shipment. It shall be securely attached to the external surface of one of the packages and is to include the following:

- (1) Bettis purchase order number
- (2) A statement that this is a radioactive material shipment
- (3) An unclassified description of the material
- (4) The identification number of each package and/or if applicable, the package security seal number
- (5) The results of the radiological surveys for contamination and dose rate levels of:
 - (a) the external surface of each package
 - (b) the internal surface of each package
 - (c) the external surface of each container in the package
- (6) A statement, if applicable, in accordance with V.A.2.

6. Correspondence and Shipping Address

- a. All classified and unclassified correspondence to Bettis shall be addressed as follows, unless otherwise instructed in the order:

Bettis Atomic Power Laboratory
Post Office Box 79
West Mifflin, PA 15122-0079

- b. Motor freight shipments to Bettis shall be addressed as follows unless otherwise instructed in the order:

Bettis Atomic Power Laboratory
814 Pittsburgh-McKeesport Boulevard
West Mifflin, Pennsylvania 15122-0079
Attn:

- c. Correspondence to the Naval Reactors Facility (NRF) shall be addressed as follows unless otherwise instructed in the order:

Naval Reactors Facility
Post Office Box 2068
Idaho Falls, Idaho 83403-2068

- d. Motor freight shipments to the Naval Reactors Facility (NRF) shall be addressed as follows otherwise instructed in the order:

Naval Reactors Facility
Scoville, Idaho 83415

- e. Deliveries shall be scheduled to arrive at Bettis from 7:30 AM to 12:00 noon and from 12:30 PM to 3:00 PM and at NRF from 8:00 AM to 3:00 PM Monday through Friday, except holidays. Contact Bettis for scheduled holidays.
- f. Shipments to locations other than Bettis or NRF shall be addressed as specified in the purchase order.

7. Notifications

- a. The Seller shall notify the Buyer orally, to be confirmed by FAX, 48 hours prior to shipments. Copies of the FAX shall be sent to the Attention of the Supervisor, Shipping and Receiving, and the Manager, DLO Radioactive Materials for Bettis shipments and to the NRF Traffic Supervisor for NRF shipments. The FAX shall include:
 - (1) Date of shipment
 - (2) Name of carrier(s)
 - (3) Estimated time of arrival
 - (4) Shipment Number (ID)
 - (5) Material being shipped
 - (6) Number of packages
- b. Notify Bettis representatives identified in 7.a. of a revised estimated arrival date occasioned by any accidents, radioactive contamination or significant shipment delays in transit involving shipments under this purchase order.
- c. Specific Bettis approval shall be obtained prior to each shipment to a location other than the Naval Reactors Program Facilities identified in Paragraph V.A.

8. Transportation Methods

- a. All of the Seller shipments shall be made under the authority of the Seller's License, FOB destination.
- b. Shipments shall be made by surface transportation under protective signature service. Shipments shall not be made by air or by the United States Postal Service without prior Bettis approval.

9. Transportation Charges

- a. Invoices under Bettis firm price orders which include transportation charges must be accompanied by two copies of the paid transportation bill or express receipt.
- b. Invoices under Bettis firm price orders which include transportation expenditures as a result of a Seller using his own vehicle must be substantiated by a separate transportation invoice itemizing the basis for transportation charges.

10. Return of Seller Owned Shipping Containers

Seller owned shipping containers will be returned to the Seller by Bettis, FOB shipping point and freight collect, whenever such containers are specified by the Seller as "reusable" or "to be returned".

11. Verification of Receipt

A "Verification of Receipt" form (Appendix C) will be dispatched to your facility within 24 hours of Bettis originated shipments. The form must be completed and returned to the attention of the cognizant shipper as identified on the said form, with a copy to the Buyer, within two weeks after shipment arrival.

CERTIFICATIONS OF LICENSE

I hereby certify that _____ is duly licensed, pursuant to the
(Name of Seller)

Atomic Energy Act of 1954, as amended, and Title 10, Code of Federal Regulation or, if the work is to be performed in a State which has entered into an agreement with the U. S. Atomic Energy Commission pursuant to Section 274 of the Atomic Energy Act of 1954, as amended, pursuant to requirements of such State to perform the following described work:

(Description)

as required by _____ (P.O. or Subcontract Identification). The applicable License No. is _____; date of issuance is _____. Expiration date is _____; issued by _____.

In the event that work under this purchase order or subcontract extends beyond the expiration date of the license, referred to herein, I certify that the Seller will obtain any necessary license and will provide certification to this effect to Bettis by completing an additional copy of Bettis Form No. 73809.

I further certify that I am authorized to make the certification as included herein.

(Signature)

(Title)

NAVAL REACTORS PROGRAM RADIOLOGICAL CRITERIA

The criteria in this Appendix apply to all shipments of material to Naval Reactors Program Facilities. Naval Reactors Program Facilities are defined as Bettis Atomic Power Laboratory (BAPL), Knolls Atomic Power Laboratory (KAPL), Naval Reactors Facility (NRF), KAPL's Kesselring, New York and Windsor, Connecticut sites, and shipyards involved in Naval Nuclear work.

A. Surface Contamination Limits

1. Alpha Surface Contamination

Loose surface contamination shall not be more than 50 pCi/100 cm² (thorium-230 equivalent).

Fixed surface contamination shall not be more than 50 pCi per probe (thorium-230 equivalent).

2. Beta-Gamma Surface Contamination

Loose surface contamination shall not be more than 450 pCi/100 cm² (cesium-137 equivalent); and

Fixed surface contamination shall not be more than 450 pCi per probe (cesium-137 equivalent).

B. Criteria for Identifying Radioactive Material

Equipment, parts and material which have been exposed to radioactive contamination or which have been exposed to neutron flux from a nuclear reactor shall be handled as radioactive material if any of the following criteria are exceeded. The material also shall be handled as radioactive material if contamination is suspected to exceed any of the criteria on surfaces not accessible for measurement.

1. Alpha radioactivity which exceeds 50 pCi (thorium-230 equivalent) by direct measurement on the material.
2. Beta-gamma radioactivity which exceeds 450 pCi (cesium-137 equivalent) by direct measurement on the material.
3. For liquids and easily divisible solid material (such as soil, sediment, and solids made of loosely bound particles that will separate through normal handling), radioactivity in a representative sample which exceeds the limits of 10 CFR 20 Appendix B, Table II, Column 2.

4. For heavy water (deuterium oxide), radioactivity which exceeds the limits of 10 CFR 20, Appendix B, Table II.

C. Instrumentation

Alpha surface contamination shall be measured using a Ludlum 3/43-5 instrument calibrated with an americium-241 source or plutonium-239 source, or equivalent as approved by Bettis.

Beta-gamma surface contamination shall be measured using an Eberline E-120 survey meter with an HP-210 probe calibrated with a technetium-99 source or cesium-137 source, or equivalent as approved by Bettis.

D. Survey Techniques

Alpha direct probe readings shall be taken in light contact. Pause at each survey point for a minimum of five seconds. Slowly scan between survey points. For portable alpha survey instruments, identified in Section C above, when indications are less than 2X the acceptable limit for alpha contamination, then base the activity levels on the frequency of audible clicks.

The amount of activity detected per audible click is dependent on the type of instrument used and shall be determined by the Seller.

Beta-gamma direct probe readings shall be taken at a maximum scan rate of one to two inches per second and at a distance of not more than 1/2 inch from the item being surveyed.

Swipe measurements should be obtained from an area of 100 cm² when and where possible. An "s-shaped" pattern should be used to cover this area. If the area being swiped is less than 100 cm², swipe the entire area. Swipes should be 2-inch diameter Whatman-1 or Whatman-2 filter paper.

Swipes shall be counted using the survey meters identified in C above or with a Tennelec LB5100 automatic alpha/beta counting system.

E. Equivalent Instruments and Techniques

Instrumentation and probes of greater or equal sensitivity than those specified above may be substituted provided that they are calibrated and used in a manner which is acceptable and approved in accordance with radiological procedures of the Seller.

RADIOACTIVE MATERIAL RECEIPT VERIFICATION REQUEST

From: Bettis Atomic Power Laboratory
Post Office Box 79
West Mifflin, PA 15122-0079

Date _____

☐ RETURN EMPTY CONTAINER(S) TO BETTIS
ADDRESS

To:

☐ DO NOT RETURN CONTAINER(S). REMOVE
ADDRESS LABEL AND "RADIOACTIVE"
MARKINGS, IF ANY, PRIOR TO DISPOSAL.

The following radioactive material shipment was shipped to your site on _____ (date):

Shipment Identification	_____
Number of Containers	_____
Proper Shipping Name	_____
Material Description	_____
Principal Radionuclide(s)	_____
Activity	_____
Carrier	_____
Estimated Arrival Date	_____

You are requested to complete the receipt and return it to the undersigned within two weeks after shipment arrival.

You also are requested to telephone the undersigned upon receipt of the shipment or if the shipment has not arrived within one day after the Estimated Arrival Date. If the shipment still has not arrived within four days after the Estimated Arrival Date, you are requested to immediately confirm this to Bettis by receipted registered mail.

Name _____
Phone _____

Signature _____

Date _____

VERIFICATION OF RECEIPT

I verify that the material described above was received at this site on _____ (date) and that this site is authorized to receive this material by one of the following:

- ☐ NAVSEA Notice 9210 Ser 08R-1875
☐ NRC/Agreement State License Number _____
☐ DOE Contract Number _____

Signature _____ Date _____

Name _____ Title _____